

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 2002	Park: Shenandoah NP
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Permit#: SHEN-2002-SCI-0007	
Park-assigned Study Id. #: SHEN-00058	
Project Title: Timber Rattlesnake Population Monitoring	
Permit Start Date: Jan 01, 2002	Permit Expiration Date Dec 31, 2002
Study Start Date: Jun 01, 1990	Study End Date Dec 31, 2027
Study Status: Continuing	
Activity Type: Monitoring	
Subject/Discipline: Herpetology (Amphibians / Reptiles)	
Objectives: 1. Locate overwintering dens and birthing rookeries. 2. Determine movements of snakes and timing of seasonal activities. 3. Determine rates of growth, shedding, maturation, reproduction, and survivorship. 4. Investigate annual variations in life history characteristics. 5. Investigate relationship between weather, acorn production, rodents, and rattlesnake reproduction. 6. Investigate relationship between weather and failure to bring young to term.	
Findings and Status: Narrative account. In the year 2002, seven days were spent in Shenandoah from 17 April to 2 October visiting 7 different sites and 56 rattlesnakes including 12 newborn (from 5 different litters) were found. As predicted from indications in 2000 (good acorn production) and 2001 (pairing, yolking females), reproduction was good but not unusually high. I found 4 postpartum females with litters and another 4 pregnant females. Because of above average temperatures and below average precipitation, parturition commenced about a week earlier than average. First litters were seen at a low-elevation site on 15 August. Shed skins of an earlier litter indicated first young were probably born about 7 August. At a high-elevation study site (Bearfence) where births typically occur in late September, a female was still pregnant on 4 September. Somewhat disturbingly, since finding evidence of poaching at Bearfence in 1997, very few females have been found at this site. At least 10 females reproduced at Bearfence during the 1994-1995 period. From 1998-2002, one reproductive female per year has been found (female aborted in 2000 due to cold weather). A courting pair was observed at the Bearfence overwintering den on 1 October. This is the latest mating activity observed and is probably attributable to the unseasonably high temperatures. Good acorn production in 2000 and 2001 and the numbers of males and non-gravid females seen in close proximity to one another suggest high reproduction in 2003. In the year 2000 reproduction was high at most sites and those same females are due to reproduce again in 2003. Demographic Distribution of Snakes. This table shows distribution by sex and age-class of snakes found in the year 2002 in Shenandoah. Female R means a female that was pregnant or gave birth in 2002. N means a female that did not reproduce in 2002. Adult? means adults whose sex was not determined. Juveniles are grouped by year of birth. Male.....Female Repro.....Non.....Adult?.....02.....01.....00.....99.....98.....97	

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4.....8.....14.....4.....2.....3.....3.....6.....1.....1	
For this study, were one or more specimens collected and removed from the park but not destroyed during analyses? No	
Funding provided this reporting year by NPS: 0	Funding provided this reporting year by other sources: 1250
Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college	
Full name of college or university: n/a	Annual funding provided by NPS to university or college this reporting year: 0